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Remarks

The Office Action rejects claims 6, 8, 10, and 16 under 35 U.S.C. § 103(a) as unpatentable over Buxbaum in view of Barri et al and Edridge. This rejection is respectfully traversed.

Buxbaum discloses a hydrogen extraction device whose primary purpose is to extract *existing* hydrogen from a hydrogen-containing stream, not to *manufacture* hydrogen as is done by a reformer like the one claimed by Applicant. In one embodiment (Figure 8), Buxbaum discloses that its separator utilizes multiple ceramic mats 220, 250, 270, having palladium-containing metal membranes thereon for hydrogen separation. In another embodiment (Figures 1 and 2), Buxbaum discloses that metal tubes 14 having palladium-containing membranes can be used for the hydrogen separation. With respect to this embodiment, Buxbaum discloses that 'packing' 19 can be used in the spaces between the tubes 14 to cause turbulence, and may contain an additional 'sorber material' 28 at the outlet 24 of the device to further purify the gas. Buxbaum further teaches at col. 12, line 64 – col. 13, line 3 that the packing material 19 can contain reforming catalyst.

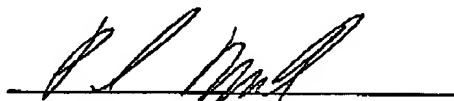
What Buxbaum clearly does not disclose or suggest, however, is a device having a ceramic mat at the inlet, and a reformer catalyst downstream of that ceramic mat, as claimed by Applicant. In Buxbaum's embodiment of Figures 1-2, there does not appear to be any ceramic mat adjacent to the inlet of the device. Even if one were to view the packing 19 as a ceramic mat, then Buxbaum still has no disclosure of a reformer catalyst substrate downstream of that mat (note that Buxbaum teaches incorporating reformer catalyst only into the packing material, not the 'sorber material' 28). With respect to Buxbaum's Figure 8 embodiment, Buxbaum does not disclose the use of *any* packing material in the Figure 8 embodiment, and it would be mere speculation as to whether packing material might be included, or where such packing material would be situated and whether or not it would have reforming catalyst.

The secondary references, cited by the Office Action in an attempt to show a plurality of layers of a ceramic fibrous material and a reflective surface facing the inlet, do nothing to remedy the shortcomings of Buxbaum as a primary reference that does not disclose Applicant's claimed configuration. Accordingly, Applicant respectfully submits that the

rejection of claims 6, 8, 10, and 16 under 35 U.S.C. § 103(a) as unpatentable over Buxbaum in view of Barri et al and Edridge should be withdrawn. As the application appears to be otherwise in condition for allowance, Applicants respectfully request early action toward that end.

If there are any additional charges or overpayments with respect to this Response, please charge or credit them to Deposit Account No. 50-0831 maintained by Applicants' attorney.

Respectfully submitted,

  
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